

ABSTRACT OF THE DISCLOSURE

Methods of preventing or reducing mucositis in patients who have been exposed to toxic levels of radiation or who are undergoing treatment with platinum-containing anti-tumor compounds are provided. The methods comprise administering an effective amount of a protective agent comprising methionine or a methionine-like moiety to said patient prior to, simultaneously with, or subsequently to exposure to radiation or administration of a platinum-containing anti-tumor compound. Combinations of these time periods can also be employed.